



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,402	03/29/2004	DahShiarn Chiao		3200
7590		03/05/2008		
David O'Neill				
786 Townsend Avenue				
New Haven, CT 06512				
		EXAMINER		
		BOECKMANN, JASON J		
		ART UNIT		
		PAPER NUMBER		
		3752		
		MAIL DATE		
		DELIVERY MODE		
		03/05/2008		
		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/817,402

**Applicant(s)**

CHIAO ET AL.

**Examiner**

JASON J. BOECKMANN

**Art Unit**

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Invention III, claims 17-22, in the reply filed on 1/18/2008 is acknowledged.

### ***Drawings***

The drawings were received on 7/30/2007. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites the limitation "skin" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim. It is not clear what is meant by the term "skin." Is it referring to the outer most layer of the target being sprayed, the skin of an actual human, or any other skin? It is also not understood if the earthed target of the last line of claim 22 is the same earthed target of claim 17, or a different target all together.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear from the claims and the specification what is meant by a semi-insulating material as in line 3 of claim 22. Is the material semi-insulating against heat or electricity? Additionally, it is not clear what is meant by the term "forwardly of the at least one nozzle." The specification does not establish which is the forward direction and which is the backward direction, so it is not understood where the potential is being established.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17-20 and claims 21 and 22, as best understood, are rejected, as well as understood, under 35 U.S.C. 102(b) as being anticipated by Ohno et al. (3,887,928).

Ohno et al. shows an electrostatic spraying device comprising: a high voltage generator (7) having a high voltage output; at least one dispensing nozzle (the exit opening in tube 3), a housing (2) enclosing at least one reservoir, a tube (3) connecting the at least one dispensing nozzle and the at least one reservoir, the tube configured to

Art Unit: 3754

convey the materials to be sprayed from the at least one reservoir to the at least one dispensing nozzle, means coupling (the wires) the high voltage output of the high voltage generator to the materials so that the voltage is conducted through the materials to the materials present at the at least one dispensing nozzle, at least one ring (9) surrounding the at least one dispensing nozzle, the at least one ring coupled to the high voltage generator (via terminal 10), the at least one ring configured to develop a high voltage of the same polarity(column 4, lines 42-3) as that applied to the materials being sprayed and to generate an electric field in the vicinity of the at least one dispensing nozzle; wherein during spraying operations the electrostatic spraying device is configured to impart an electrostatic charge to the materials issuing from the at least one nozzle and to focus the material being sprayed when a forward extremity (the part of the ring that is closest to the earthed target) of the ring is brought in proximity to an earthed target to be sprayed (it is noted that when the device is brought in close proximity to an earthed target, the material being sprayed is automatically focused on a section of the earthed target).

Regarding claim 18, the at least one dispensing nozzle is mounted in fixed relation to the and the at least one ring is in the form of an annular cable mounted on the housing (figure 32) in substantially concentric relation with the at least one dispensing nozzle.

Regarding claim 19, the means for supplying the materials to the nozzle passively is gravity, depending on the orientation of the device.

Regarding claim 20, the means for supplying the materials to the nozzle by a user induced operation is by electrostatic charge and jetting.

Regarding claim 21, as best understood, the electrostatic spray device is configured to generate an iontophoresis effect to enhance transport through skin when the forward extremity of the nozzle is within a distance of 2 cm from the skin of an earthed target. It is noted that since the Ohno et al. reference discloses the exact structure as that of the present invention, the Ohno et al. reference will generate an iontophoresis effect when the nozzle is within 2 cm from the target, in the same way as the present invention does.

Regarding claim 22, as best understood, the at least one ring is made of a semi-insulating material, and since it is charged with the same voltage as the material to be dispensed, it forms a potential in a location forward of the nozzle.

### ***Response to Arguments***

Applicant's arguments concerning the Ohno reference, filed 7/30/2007 have been fully considered but they are not persuasive. It is noted that the Ohno reference will inherently focus the material being sprayed to a specific point on the earthed target as the nozzle gets closer and closer to the earthed target. Just as in any other spraying operation.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON J. BOECKMANN whose telephone number is (571)272-2708. The examiner can normally be reached on 7:30 - 5:00 m-f, first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason J Boeckmann/  
Examiner, Art Unit 3752  
2/26/2008

/Kevin P. Shaver/  
Supervisory Patent Examiner, Art  
Unit 3754